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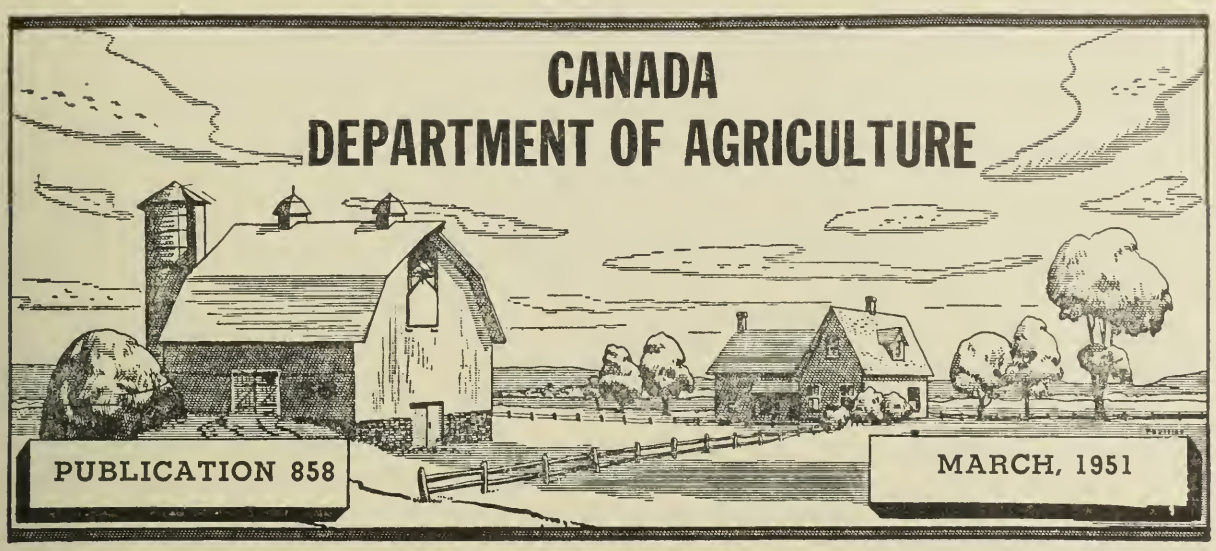

MILLET

Adaptation

MILLET is essentially a warm weather crop and is best adapted to areas having warm summers. It does best where a fair amount of moisture is available, although it has some resistance to short periods of drought.

Millet is a shallow rooted crop which will thrive on a wide variety of soils. Best results are obtained on fertile loam soils, although in areas where there is an abundance of moisture, millet will yield well on almost any fertile soil.

Utilization

Hay.—A very large proportion of the acreage sown to millet in Eastern Canada is for an emergency or supplementary hay crop. The foxtail millets make a fair quality hay which although somewhat inferior to timothy seems to be relished by livestock. The hay from the proso millets is not of very good quality, but will be eaten by stock when cut at the proper time and properly cured. There is some evidence that millet hay is injurious to horses when fed continuously as the sole roughage, and should be fed along with some other roughage. There is no danger in feeding to other kinds of livestock.

Millet hay can be handled like any other hay crop. The best quality of hay will be obtained by cutting shortly after the millet heads out.

Pasture.—Experience has indicated that while millet is fairly productive as pasture, it is not highly adapted for this purpose. While cattle will graze on millet they will leave it for other annual pastures such as sudan grass or oats or for the usual clover-hay pastures. It also lacks the ability to renew its growth quickly after being cropped, and is subject to injury in grazing.

Mixtures.—There is little purpose in seeding millets in mixtures with other grasses. In combination with annual legumes such as soybeans or peas, millet aids in curing and handling these crops, but this is about the only advantage in growing them together. If it is desired to mix the legumes with the millet for feeding, more satisfactory results will be obtained by growing the two crops separately.

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Reprint of Wartime Production Series Pamphlet No. 12.
10M—14883—3-51
78351
Agriculture Canada

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Grain.—Millets, particularly the early proso types, are excellent emergency or supplementary grain crops. Frequently when oat or barley crops fail and a feed shortage is indicated, a proso millet such as Crown can be seeded as late as the first week in July and yields up to 35 bushels of grain obtained. The seed of both the proso and foxtail millets is well suited to livestock feeding particularly if it is ground and used with the regular protein supplements. It has a composition similar to oats and is almost equal to barley in feeding value.

Silage.—While millet makes good silage when ensiled as the heads are ripening, it does not compare favourably with corn for this purpose. The silage is frequently dry and fluffy, but is eaten with apparent relish by stock. Should the corn or other silage crops appear to be a complete failure, and the season too far advanced for reseeding, millet, because of its ability to grow well even with late seeding, might well be used as an emergency silage crop, particularly if some leguminous crop such as soybeans can be mixed with it when it is ensiled.

Soiling.—Millet makes a good supplement to pasture when used as a soiling crop. There is usually sufficient growth by midsummer so that the crop can be cut and fed green at the time when pastures are the least productive.

Cover Crop.—The use of millets as cover crops in orchards and for weed control has received some attention in Ontario with the development of the Empire and Crown varieties. The ability of these varieties to grow quickly and control weeds has proved them of definite value in young orchards where a late sown cover crop is necessary.

Crown millet has been found to compare favourably with buckwheat when used as a cover crop in weed control. All the millets, however, are effective in controlling weeds, especially where good stands are obtained.

Varieties

There are two general groups of millets grown in Eastern Canada, namely, the hay millets which include the foxtail types and Japanese millet, and the grain millets or as they are generally called the proso or broom corn millets.

Hay Millets

The foxtail millets are characterized by erect, slender, stems which grow from 2½ to 5 feet in height and bear broad, flat leaves. The seeds are borne in a rather dense, cylindrical spike. The following are the commonly grown varieties.

Empire.—This is a Canadian variety produced by the Experimental Farms Service. Comprehensive tests under Eastern Canada conditions have demonstrated that in yield of green fodder and in yield of hay this variety is superior to most, if not all, the commonly grown varieties of millet. It is also a heavy seed yielder, far outyielding the other types commonly grown in Eastern Canada when given a growing season of 110-120 days. It has the ability to make hay superior in quality to that of the other late maturing varieties, 80 to 90 days after seeding. This variety is to be recommended in areas having a fairly long growing season and where yield is the primary consideration.

White Wonder.—A large headed variety characterized by coarse stems and broad leaves. It is considerably earlier than German millet and gives large yields of hay, being about equal to Golden Wonder.

Golden Wonder.—A variety very similar to German millet in habit of growth but somewhat earlier. It is one of the more productive varieties.

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German or Golden.—This is one of the late foxtail millets requiring 90 to 100 days to reach maximum growth for hay. It has heavy stems and numerous broad leaves and where conditions are favourable produces heavy yields of hay. This variety is somewhat late in maturing in most sections of Eastern Canada.

Siberian.—An early variety which is usually ready to cut for hay 65 to 70 days after seeding. It is fine stemmed and leafy and makes good quality hay. However, it is not nearly so productive as some of the later maturing varieties.

Hungarian.—Hungarian is a millet which is grown to a considerable extent in Ontario. It matures in about the same number of days as Siberian, but is not quite so productive. The hay quality is good.

Common.—An early millet which while quite variable as to maturity could be placed in the same maturity group as Siberian and Hungarian. This variety is generally a little more productive than Siberian millet.

Japanese Millet.—This is not a proso or foxtail millet but is related to barnyard grass. It is a coarse stemmed type which does not mature until late in the season. While large yields of hay may be obtained from this variety, the hay is usually of relatively poor quality.

Proso or Grain Millets

Proso millet is distinguished from the foxtail millet by having a panicle type head. Proso has coarse stems and is not so leafy as the foxtail. The stems are from 2 to 5 feet in height. The seed is larger and is not so tightly held in the hull as is that of the foxtail millets.

Crown.—This is another variety produced by the Experimental Farms Service. It will mature in from 85 to 90 days after seeding and gives much higher yields of grain than the other varieties of proso usually grown in Canada. While this variety is not equal in yield or quality of hay to the better foxtail varieties of millet, it is superior to other proso varieties such as Early Fortune and Hog, in this respect. This variety is to be recommended where the growing season is short and an emergency grain crop or a cover crop is required.

Red Turghai.—This is a variety which matures in about 90 days and gives a good grain yield. The hay is of poor quality.

Early Fortune.—Both Crown and Red Turghai are superior to Early Fortune in yielding ability. The hay is of poor quality.

Hog Millet.—While commonly grown, this variety is much inferior to the Crown variety in yield of seed and yield and quality of hay.

Culture

Seed-Bed Preparation.—Millet is sown on spring ploughing as a rule since it is used mainly as a catch crop and is generally seeded late, but will do equally well on fall ploughing, if a thorough spring cultivation is given. Since the seed of millet is small, a fine, firm seed-bed free of weeds is desirable. If seeding is done on a rough, poorly worked seed-bed, results will be unsatisfactory.

Time of Seeding.—Millet is a warm weather crop and does not grow well until the soil is warm. Failures are frequent when millet is seeded at the same time as the cereal grains. In Eastern Canada millet may be sown from the last of May to the first week in July, provided there is sufficient moisture to give the crop a good start. A good rule to follow is to allow for at least 70 frost-free days after seeding, when the crop is intended for hay. The late millets will naturally require a longer frost-free period than the early types.

Date of Seeding.—When the seed-bed is properly prepared and moisture and temperature conditions are favourable a seeding of 15 to 20 pounds of foxtail millet per acre should ensure a good stand. Under adverse conditions the rate might well be increased to 25 pounds per acre. Proso millet should be seeded at 20 to 25 pounds per acre. When it is the intention to harvest the millet for seed the above rates should be reduced somewhat.

Method of Seeding.—A good stand may be obtained either by drilling or broadcasting the seed. Generally the best results are had when the seed is drilled in. It may be necessary in order to govern the rate of seeding to connect the spouts from the grass seed box to the grain spouts, by means of a rubber hose. The seed can then be fed through the grass seed box to the drills at the desired rate. With either broadcast or drill seeding light covering should be the rule. If the soil is loose and dry, packing may be of value. Following broadcast seeding, covering may be done with a spike-tooth harrow or a float.

Seed Production

For seed production the millets are sown and handled as for hay. In some areas where the growing season is relatively short it has been found that the late millets such as Empire may be grown to advantage in spaced rows for seed.

Time of Harvesting.—The foxtail millets should not be cut for seed until most of the seed in the heads has become firm and can be rubbed out of the head by hand. The proso millet heads ripen from the top downward. Harvesting too early results in immature seed on the lower portion of the head, and harvesting too late in a heavy loss from shattering. If cut when the heads are from one-half to two-thirds ripe the maximum quantity of seed will be obtained.

Method of Harvesting.—The grain binder is generally the most satisfactory method of harvesting millet. Frequently it may be necessary to cut with a mower and place in cocks. Considerable seed is usually lost by this method.

The combine method of harvesting is not entirely satisfactory with millet. The combine frequently fails to get all the seed out of the standing crop of foxtail millet heads. On the other hand, the seed and straw of the proso varieties contain too much moisture at harvest time to make combining entirely successful. If it is possible to allow the crop to dry out in windows a combine harvester with a pick-up attachment will make a satisfactory job.

Curing.—When cut with a binder care should be taken to see that the bundles are made relatively small. They should be allowed to remain in small, narrow stooks until they are in perfect condition for threshing. If wet weather prevails an effort should be made to air out the stooks so as to prevent damage.

Threshing.—The ordinary grain separator does a very satisfactory job on both types of millet. Proso in good condition will thresh well with blank concaves. In threshing foxtail millet one three-row set of concaves is usually sufficient and it need not be set close to the cylinder. Hulling of the seed should be avoided as hulled seed is usually low in germination.

Storage.—Since millet seed often contains considerable moisture when threshed, care should be taken to see that it is dried out sufficiently before being put in storage. Heating in the bags will seriously affect germination.

Prepared by Division of Forage Plants, Experimental Farms Service, Department of Agriculture, Ottawa, Canada.

Ottawa—Edmond Cloutier, C.M.G., O.A., D.S.P., Printer to the King's Most Excellent Majesty, 1951